GCACGAGCGATCGTCGTCGTGCTAAGCCTGGCCGCGCTGTGCAGGAGCGCCGTACCCCGAGAGCCGACCGTT CAATGTGGCTCTGAAACTGGGCCATCTCCAGAGTGGATGCTACAACATGATCTAATCCCCGGAGACTTGAGGGAC CTCCGAGTAGAACCTGTTACAACTAGTGTTGCAACAGGGGACTATTCAATTTTGATGAATGTAAGCTGGGTACTC CGGGCAGATGCCAGCATCCGCTTGTTGAAGGCCACCAAGATTTGTGTGACGGGCAAAAGCAACTTCCAGTCCTAC AGCTGTGTGAGGTGCAATTACACAGAGGCCTTCCAGACTCAGACCAGACCCTCTGGTGGTAAATGGACATTTTCC TACATCGGCTTCCCTGTAGAGCTGAACACAGTCTATTTCATTGGGGCCCCATAATATTCCTAATGCAAATATGAAT TGTGTCAAGGCCGGAAGCCTGTGGGATCCGAACATCACTGCTTGTAAGAAGAATGAGGAGACAGTAGAAGTGAAC TTCACAACCACTCCCCTGGGAAACAGATACATGGCTCTTATCCAACACACCACTATCATCGGGTTTTCTCAGGTG TTTGAGCCACCAGAAGAACAAACGCGAGCTTCAGTGGTGATTCCAGTGACTGGGGATAGTGAAGGTGCTACG GTGCAGCTGACTCCATATTTTCCTACTTGTGGCAGCGACTGCATCCGACATAAAGGAACAGTTGTGCTCTGCCCA TTTTCTACCACCACACTACTGCCCCCCATTAAGGTTCTTGTGGTTTACCCATCTGAAATATGTTTCCATCACACA ATTTGTTACTTCACTGAATTTCTTCAAAACCATTGCAGAAGTGAGGTCATCCTTGAAAAGTGGCAGAAAAGGAA AATGACGTCAACAGTGTGCGATGGTACCTGTGGCAAGAGCGAGGGCAGTCCCAGTGAGAACTCTCAAGACTCT ${\tt TCCCCTTGCCTT} \underline{{\tt TAA}} {\tt CCTTTTCTGCAGTGATCTAAGAAGCCAGATTCATCTGCACAAATACGTGGTGGTCTACTT}$ TAGAGAGATTGATACAAAAGACGATTACAATGCTCTCAGTGTCTGCCCCAAGTACCACCTCATGAAGGATGCCAC TGCTTTCTGTGCAGAACTTCTCCATGTCAAGTAGCAGGTGTCAGCAGGAAAAAGATCACAAGCCTGCCACGATGG CTGCTGCTCCTTGTAGCCCACCCATGAGAAGCAAGAGCCTTAAAGGCTTCCTATCCCACCAATTACAGGGAAAA AACGTGTGATGATCCTGAAGCTTACTATGCAGCCTACAAACAGCCTTAGTAATTAAAACATTTTATACCAATAAA ATTTTCAAATATTGCTAACTAATGTAGCATTAACTAACGATTGGAAACTACATTTACAACTTCAAAGCTGTTTTA TACATAGAAATCAATTACAGTTTTAATTGAAAACTATAACCATTTTGATAATGCAACAATAAAGCATCTTCAGCC AAAAAAAAAAAAA

MSLVLLSLAALCRSAVPREPTVQCGSETGPSPEWMLQHDLIPGDLRDLRVEPVTTSVATGDYSILMNVSWVLRAD ASIRLLKATKICVTGKSNFQSYSCVRCNYTEAFQTQTRPSGGKWTFSYIGFPVELNTVYFIGAHNIPNANMNEDG PSMSVNFTSPGCLDHIMKYKKKCVKAGSLWDPNITACKKNEETVEVNFTTTPLGNRYMALIQHSTIIGFSQVFEP HQKKQTRASVVIPVTGDSEGATVQLTPYFPTCGSDCIRHKGTVVLCPQTGVPFPLDNNKSKPGGWLPLLLLSLLV ATWVLVAGIYLMWRHERIKKTSFSTTTLLPPIKVLVVYPSEICFHHTICYFTEFLQNHCRSEVILEKWQKKKIAE MGPVQWLATQKKAADKVVFLLSNDVNSVCDGTCGKSEGSPSENSQDSSPCL

GACAGTGGAGGGCAGTGGAGAGCCGCGCTGTCCTGCTGTCACCAAGAGCTGGAGACACCATCTCCCACCGAGA GTCATGGCCCCATTGGCCCTGCACCTCCTCGTCCCCATCCTCCTCAGCCTGGTGGCCTCCCAGGACTGG AAGGCTGAACGCCAAGACCCCTTCGAGAAATGCATGCAGGATCCTGACTATGAGCAGCTGCTCAAGGTGGTG ACCTGGGGGCTCAATCGGACCCTGAAGCCCCAGAGGGTGATTGTGGTTGGCGGTGTGGCCGGGCTGGTGGCC GCCAAGGTGCTCAGCGATGCTGGACACAAGGTCACCATCCTGGAGGCAGATAACAGGATCGGGGGCCGCATCTTC ACCTACCGGGACCAGAACACGGGCTGGATTGGGGAGCTGGGAGCCATGCCCAGCTCTCACAGGATCCTC CACAAGCTCTGCCAGGGCCTGGGGCTCAACCTGACCAAGTTCACCCAGTACGACAAGAACACGTGGACGGAGGTG CACGAAGTGAAGCTGCGCAACTATGTGGTGGAGAAGGTGCCCGAGAAGCTGGGCTACGCCTTGCGTCCCCAGGAA AAGGGCCACTCGCCCGAAGACATCTACCAGATGGCTCTCAACCAGGCCCTCAAAGACCTCAAGGCACTGGGCTGC GCCGTGCAGCTTCTGGGAGACGTGATGTCCGAGGATGGCTTCTTCTATCTCAGCTTCGCCGAGGCCCTCCGGGCC AGCTCGCTGTCCGGGCTTGTGCTGTTGAACGCGCCCGTGGTGGCGATGACCCAGGGACCGCACGATGTGCACGTG CAGATCGAGACCTCTCCCCCGGCGCGGAATCTGAAGGTGCTGAAGGCCGACGTGGTGCTGCTGACGGCGAGCGGA CCGGCGGTGAAGCGCATCACCTTCTCGCCGCCGCTGCCCCGCCACATGCAGGAGGCGCTGCGGAGGCTGCACTAC GTGCCGGCCACCAAGGTGTTCCTAAGCTTCCGCAGGCCCTTCTGGCGCGAGGAGCACATTGAAGGCGGCCACTCA TGGTCGGACGCGGCAGCGTTCGCCGGCTTGAGCCGGGAAGAGGCGTTGCGCTTGGCGCTCGACGACGTGGCG GCATTGCACGGGCCTGTCGTGCGCCAGCTCTGGGACGGCACCGGCGTCGTCAAGCGTTGGGCGGAGGACCAGCAC AGCCAGGGTGGCTTTGTGGTACAGCCGCCGCGCGCTCTGGCAAACCGAAAAGGATGACTGGACGGTCCCTTATGGC CGCATCTACTTTGCCGGCGAGCACACCGCCTACCCGCACGGCTGGGTGGAGACGGCGGTCAAGTCGGCGCTGCGC GCCGCCATCAAGATCAACAGCCGGAAGGGGCCTGCATCGGACACGGCCAGCCCCGAGGGGCACGCATCTGACATG GAGGGCAGGGCATGTGCATGGGGTGGCCAGCAGCCCCTCGCATGACCTGGCAAAGGAAGAAGGCAGCCACCCT CCAGTCCAAGGCCAGTTATCTCTCCAAAACACGACCCACACGAGGACCTCGCAT**TAA**AGTATTTTCGGAAAAA

MAPLALHLLVLVPILLSLVASQDWKAERSQDPFEKCMQDPDYEQLLKVVTWGLNRTLKPQRVIVVGAGVAGLVAA KVLSDAGHKVTILEADNRIGGRIFTYRDQNTGWIGELGAMRMPSSHRILHKLCQGLGLNLTKFTQYDKNTWTEVH EVKLRNYVVEKVPEKLGYALRPQEKGHSPEDIYQMALNQALKDLKALGCRKAMKKFERHTLLEYLLGEGNLSRPA VQLLGDVMSEDGFFYLSFAEALRAHSCLSDRLQYSRIVGGWDLLPRALLSSLSGLVLLNAPVVAMTQGPHDVHVQ IETSPPARNLKVLKADVVLLTASGPAVKRITFSPPLPRHMQEALRRLHYVPATKVFLSFRRPFWREEHIEGGHSN TDRPSRMIFYPPPREGALLLASYTWSDAAAAFAGLSREEALRLALDDVAALHGPVVRQLWDGTGVVKRWAEDQHS QGGFVVQPPALWQTEKDDWTVPYGRIYFAGEHTAYPHGWVETAVKSALRAAIKINSRKGPASDTASPEGHASDME GQGHVHGVASSPSHDLAKEEGSHPPVQGQLSLQNTTHTRTSH

GGAGGCAGGCGGTGCCGCGGGGCCCGGGACCCGACTCATCCGGTGCTGCGTGTGGTGGTGAGCGCAGCGCCGAGG GGCGCTAACGCGGCCCCGCGGTCGGCGCTCTATTCGCCTTCCGACCCGCTGACGCTGCTGCAGGCGGACACGGTG CGCGGCGCGCTGCGCCCCGCAGCGCCTGGGCCGTGGAGTTCTTCGCCTCCTGGTGCGGCCACTGCATCGCC TGTGCTGAGGAGCCAACAGTGCAGTCTGCAGAGACTTCAACATCCCTGGCTTCCCGACTGTGAGGTTCTTCAAG GCCTTTACCAAGAACGGCTCGGGAGCAGTATTTCCAGTGGCTGGTGCTGACGTGCAGACGCTGCGGGAGAGGCTC ATTGACGCCCTGGAGTCCCATCATGACACGTGGCCCCCAGCCTGTCCCCCACTGGAGCCTGCCAAGCTGGAGGAG ATTGATGGATTCTTTGCGAGAAATAACGAAGAGTACCTGGCTCTGATCTTTGAAAAGGGAGGCTCCTACCTGGGT GTGAGAAAGTTTGGTGTCACCGACTTCCCCTCTTGCTACCTGCTGTTCCGGAATGGCTCTGTCTCCCGAGTCCCC GTGCTCATGGAATCCAGGTCCTTCTATACCGCTTACCTGCAGAGACTCTCTGGGCTCACCAGGGAGGCTGCCCAG ACCACAGTTGCACCAACCACTGCTAACAAGATAGCTCCCACTGTTTGGAAATTGGCAGATCGCTCCAAGATCTAC ATGGCTGACCTGGAATCTGCACTGCACTACATCCTGCGGATAGAAGTGGGCAGGTTCCCGGTCCTGGAAGGGCAG CTGCACTCCGTGAATGAATGGCTCAAGAGGCAGAAGAGAAATAAAATTCCCTACAGTTTCTTTAAAACTGCCCTG GACGACAGGAAAGAGGTGCCGTTCTTGCCAAGAAGGTGAACTGGATTGGCTGCCAGGGGAGTGAGCCGCATTTC TCACAGGAAGCAGCCAAGGAGGTCCTCCCAGCCATCCGAGGCTACGTGCACTACTTCTTCGGCTGCCGA GACTGCGCTAGCCACTTCGAGCAGATGGCTGCTCCATGCACCGGGTGGGGAGTCCCAACGCCGCTGTCCTC TGGCTCTGGTCTAGCCACAACAGGGTCAATGCTCGCCTTGCAGGTGCCCCCAGCGAGGACCCCCAGTTCCCCAAG GTGCAGTGGCCACCCCGTGAACTTTGTTCTGCCTGCCACAATGAACGCCTGGATGTGCCCGTGTGGGACGTGGAA GCCACCCTCAACTTCCTCAAGGCCCACTTCTCCCCAAGCAACATCATCCTGGACTTCCCTGCAGCTGGGTCAGCT GCCCGGAGGGATGTGCAGAATGTGGCAGCCGCCCCAGAGCTGGCGATGGGAGCCCTGGAGCTGGAAAGCCGGAAT TCAACTCTGGACCCTGGGAAGCCTGAGATGATGAAGTCCCCCACAAACACCCCCCACATGTGCCGGCTGAGGGA CCTGAGGCAAGTCGACCCCGAAGCTGCACCTGGCCTCAGAGCTGCACCAGGCCAGGAGCCTCCTGAGCACATG GCAGAGCTTCAGAGGAATGAGCAGGAGCAGCCGCTTGGGCAGTGGCACTTGAGCAAGCGAGACACAGGGGCTGCA TTGCTGGCTGAGTCCAGGGCTGAGAAGAACCGCCTCTGGGGCCCTTTGGAGGTCAGGCGCGTGGGCCGCAGCTCC AAGCAGCTGGTCGACATCCCTGAGGGCCAGCTGGAGGCCCGAGCTGGACGGGCCCGAGGCCAGTGGCTGCAGGTG CTGGGAGGGGGCTTCTCTTACCTGGACATCAGCCTCTGTGTGGGGCCTCTATTCCCTGTCCTTCATGGGCCTGCTG ${\tt GCCATGTACACCTACTTCCAGGCCAAGATAAGGGCCCTGAAGGGCCATGCTGGCCACCCTGCAGCC} {\color{red}{\textbf{TGA}}} {\tt ACCACC}$ CCCTTGCTCCTTGTCTGGCCTAGAAGTGTGGGAAATTCAGGAAAACGAGTTGCTCCAGTGAAGCTTCTTGGGGTT $\tt CCCGGGCAGTGGGCATAGGGCAGCTCAGTCCCTGGCCTCTTAGCACCACATTCCTGTTTTTCAGCTTATTTGAAG$ ${\tt TCCTGCCTCATTCTCACTGGAGCCTCAGTCTCTCCTGCTTGGTCTTGGCCCTCAACTGGGGCAAGTGAAGCCAGA}$ GGAGGGTCCCCCAGCTGGGTGGGCTGGAATGGAACTCCTCACTAGCTGCTGGGGGCTCCGCCCACCCTGCTCCCTT $\tt CCGGACAATGAAGAAGCCTTTGCACCCTGGGAGGAAGGACCACCCCGGGCCCTCTATGCCTGGCCAGCCTCCAGC$ AAGGATGTGGGTCTCTAGTGCCTTGCCCTGGCTTAGCTGCAGGAGAAGATGGCTGCTTTCACTTCCCCCCATTGA TGCCAGGTAGAAGCTAGGGAGGGGAGTGTCTTCTCTCTCCAGGTTTCACCTTCCAGTGTGCAGAAGTTAGAAGGG TCTGGCGGGGGCAGTGCCTTACACATGCTTGATTCCCACGCTACCCCCTGCCTTGGGAGGTGTGGGAATAAATT ATTTTTGTTAAGGC

MRRCNSGSGPPSLLLLLLWLLAVPGANAAPRSALYSPSDPLTLLQADTVRGAVLGSRSAWAVEFFASWCGHCIA FAPTWKALAEDVKAWRPALYLAALDCAEETNSAVCRDFNIPGFPTVRFFKAFTKNGSGAVFPVAGADVQTLRERL IDALESHHDTWPPACPPLEPAKLEEIDGFFARNNEEYLALIFEKGGSYLGREVALDLSQHKGVAVRRVLNTEANV VRKFGVTDFPSCYLLFRNGSVSRVPVLMESRSFYTAYLQRLSGLTREAAQTTVAPTTANKIAPTVWKLADRSKIY MADLESALHYILRIEVGRFPVLEGQRLVALKKFVAVLAKYFPGRPLVQNFLHSVNEWLKRQKRNKIPYSFFKTAL DDRKEGAVLAKKVNWIGCQGSEPHFRGFPCSLWVLFHFLTVQAARQNVDHSQEAAKAKEVLPAIRGYVHYFFGCR DCASHFEQMAAASMHRVGSPNAAVLWLWSSHNRVNARLAGAPSEDPQFPKVQWPPRELCSACHNERLDVPVWDVE ATLNFLKAHFSPSNIILDFPAAGSAARRDVQNVAAAPELAMGALELESRNSTLDPGKPEMMKSPTNTTPHVPAEG PEASRPPKLHPGLRAAPGQEPPEHMAELQRNEQEQPLGQWHLSKRDTGAALLAESRAEKNRLWGPLEVRRVGRSS KQLVDIPEGQLEARAGRGRGQWLQVLGGGFSYLDISLCVGLYSLSFMGLLAMYTYFQAKIRALKGHAGHPAA

7/30 **FIGURE 7A**

AACCGAGCCCAGCCGGAGGACGCGGGCAGGGCGGGACGGGACCCGGACTCGTCTCGCCGCCGCCGTCGTCG GCCTCGCGGCGCTAGGGCGGGCTGGCCTCCGCGGGCGGGGCAGCGGGCTGAGGGCGCGCGGGGCCTGCGGCGGC GCGTGCTCGGGCTCGTCCTGGGCTTCGTGCTCGCGGCTCGTCCTGCCCCGGGCTTCCGAGCTGAAGC GAGCGGGCCCACGCGCCGCCAGCCCCGAGGGCTGCCGGTCCGGGCAGGCGGCGGCTTCCCAGGCCGGCGGG CGCGCGCGATGCGCGCGGGGCCAGCTCTGGCCGCCCGGCTCGGACCCAGATGGCGGCCCGCGCGACAGGAACT TTCTCTTCGTGGGAGTCATGACCGCCCAGAAATACCTGCAGACTCGGGCCGTGGCCGCCTACAGAACATGGTCCA AGACAATTCCTGGGAAAGTTCAGTTCTTCTCAAGTGAGGGTTCTGACACATCTGTACCAATTCCAGTAGTGCCAC TACGGGGTGTGGACGACTCCTACCCGCCCCAGAAGAAGTCCTTCATGATGCTCAAGTACATGCACGACCACTACT TGGACAAGTATGAATGGTTTATGAGAGCAGATGATGACGTGTACATCAAAGGAGACCGTCTGGAGAACTTCCTGA GGAGTTTGAACAGCAGCGAGCCCCTCTTTCTTGGGCAGACAGGCCTGGGCACCACGGAAGAAATGGGAAAACTGG CCCTGGAGCCTGGTGAGAACTTCTGCATGGGGGGGCCTGGCGTGATCATGAGCCGGGAGGTGCTTCGGAGAATGG TGCCGCACATTGGCAAGTGTCTCCGGGAGATGTACACCACCCATGAGGACGTGGAGGTGGGAAGGTGTGTCCGGA GGTTTGCAGGGGTGCAGTGTCTCGGTCTTATGAGATGCAGCAGCTTTTTTATGAGAATTACGAGCAGAACAAAA ACCAGTACAGGCTCCACAGCTACATGCTGAGCCGCAAGATATCCGAGCTCCGCCATCGCACAATACAGCTGCACC CCTTCATGAGGTTTCAGCCCCGCCAGCGAGAGGAGATTCTGGAATGGGAGTTTCTGACTGGAAAATACTTGTATT CGGCAGTTGACGGCCAGCCCCCTCGAAGAGGAATGGACTCCGCCCAGAGGGAAGCCTTGGACGACATTGTCATGC AGGTCATGGAGATGATCAATGCCAACGCCAAGACCAGAGGGCGCATCATTGACTTCAAAGAGATCCAGTACGGCT ACCGCCGGGTGAACCCCATGTATGGGGCTGAGTACATCCTGGACCTGCTGCTTCTGTACAAAAAGCACAAAGGGA AGAAAATGACGGTCCCTGTGAGGAGGCACGCGTATTTACAGCAGACTTTCAGCAAAATCCAGTTTGTGGAGCATG TGAAGAAGCTCGTCCCCTTTCAGCTCCCTGGGTCGAAGAGTGAGCACAAAGAACCCAAAGATAAAAAGATAAACA TACTGATTCCTTTGTCTGGGCGTTTCGACATGTTTGTGAGATTTATGGGAAACTTTGAGAAGACGTGTCTTATCC CCAATCAGAACGTCAAGCTCGTGGTTCTGCTTTTCAATTCTGACTCCAACCCTGACAAGGCCAAACAAGTTGAAC TGATGACAGATTACCGCATTAAGTACCCTAAAGCCGACATGCAGATTTTGCCTGTGTCTGGAGAGTTTTCAAGAG $\tt CCCTGGCCCTGGAAGTAGGATCCTCCCAGTTTAACAATGAATCTTTGCTCTTCTTCTGCGACGTCGACCTCGTCT$ TTACTACAGAATTCCTTCAGCGATGTCGAGCAAATACAGTTCTGGGCCAACAAATATATTTTCCAATCATCTTCA GCCAGTATGACCCAAAGATTGTTTATAGTGGGAAAGTTCCCAGTGACAACCATTTTGCCTTTACTCAGAAAACTG GGAGCCAGGAAGTAGGAGTAGTCCACGTCCACCATCCTGTCTTTTGTGATCCCAATCTTGACCCCAAACAGTACA ATCCAAGTTACAGTAAAAGCAGCAATAATAATGGCTCAGTGAGGACAGCCTAATGTCCAGCTTTGCTGGAAAAGA CGTTTTTAATTATCTAATTTTTTCAAAAATTTTTTGTATGATCAGTTTTTTGAAGTCCGTATACAAGGATATA TTTTACAAGTGGTTTTCTTACATAGGACTCCTTTAAGATTGAGCTTTCTGAACAAGAAGGTGATCAGTGTTTGCC TTTGAACACATCTTCTTGCTGAACATTATGTAGCAGACCTGCTTAACTTTGACTTGAAATGTACCTGATGAACAA AACTTTTTTAAAAAAATGTTTTCTTTTGAGACCCTTTGCTCCAGTCCTATGGCAGAAAACGTGAACATTCCTGCA AAGTATTATTGTAACAAAACACTGTAACTCTGGTAAATGTTCTGTTGTGATTGTTAACATTCCACAGATTCTACC TTTTGTGTTTTTTTTTTTTTTTACAATTGTTTTAAAGCCATTTCATGTTCCAGTTGTAAGATAAGGAAATGT GATAATAGCTGTTTCATCATTGTCTTCAGGAGAGCTTTCCAGAGTTGATCATTTCCCCTCATGGTACTCTGCTCA TGGAATGCAGTGGCGCAATCTTGGCTCACTTTAACCTCCACTTCCCTGGTTCAAGCAATTCCCCTGCCTTTGCCT

8/30 **FIGURE 7B**

MAARGRRAWLSVLLGLVLGFVLASRLVLPRASELKRAGPRRRASPEGCRSGQAAASQAGGARGDARGAQLWPPGS
DPDGGPRDRNFLFVGVMTAQKYLQTRAVAAYRTWSKTIPGKVQFFSSEGSDTSVPIPVVPLRGVDDSYPPQKKSF
MMLKYMHDHYLDKYEWFMRADDDVYIKGDRLENFLRSLNSSEPLFLGQTGLGTTEEMGKLALEPGENFCMGGPGV
IMSREVLRRMVPHIGKCLREMYTTHEDVEVGRCVRRFAGVQCVWSYEMQQLFYENYEQNKKGYIRDLHNSKIHQA
ITLHPNKNPPYQYRLHSYMLSRKISELRHRTIQLHREIVLMSKYSNTEIHKEDLQLGIPPSFMRFQPRQREEILE
WEFLTGKYLYSAVDGQPPRRGMDSAQREALDDIVMQVMEMINANAKTRGRIIDFKEIQYGYRRVNPMYGAEYILD
LLLLYKKHKGKKMTVPVRRHAYLQQTFSKIQFVEHEELDAQELAKRINQESGSLSFLSNSLKKLVPFQLPGSKSE
HKEPKDKKINILIPLSGRFDMFVRFMGNFEKTCLIPNQNVKLVVLLFNSDSNPDKAKQVELMTDYRIKYPKADMQ
ILPVSGEFSRALALEVGSSQFNNESLLFFCDVDLVFTTEFLQRCRANTVLGQQIYFPIIFSQYDPKIVYSGKVPS
DNHFAFTQKTGFWRNYGFGITCIYKGDLVRVGGFDVSIQGWGLEDVDLFNKVVQAGLKTFRSQEVGVVHVHHPVF
CDPNLDPKQYKMCLGSKASTYGSTQQLAEMWLEKNDPSYSKSSNNNGSVRTA

TCCTGTCTCAGGCAGGCCCTGCGCCTCCTATGCGGAGATGCTACTGCCACTGCTGCTGCTGCTGCTGCTGCTGGGGGGG GTCCCAGGCTATGGATGGGAGATTCTGGATACGAGTGCAGGAGTCAGTGATGGTGCCGGAGGGCCTGTGCATCTC TGTGCCCTGCTCTTTCTCCTACCCCCGACAAGACTGGACAGGGTCTACCCCAGCTTATGGCTACTGGTTCAAAGC AGTGACTGAGACAACCAAGGGTGCTCCTGTGGCCACAAACCACAGAGTCGAGAGGTGGAAATGAGCACCCGGGG CCGATTCCAGCTCACTGGGGATCCCGCCAAGGGGAACTGCTCCTTGGTGATCAGAGACGCGCAGATGCAGGATGA AGTAACAGCCCTGACTCAGAAGCCTGATGTCTACATCCCCGAGACCCTGGAGCCCGGGCAGCCGGTGACGGTCAT AGGAACCAAACCAACGACCTCCCACTTCTCAGTGCTCAGCTTCACGCCCAGACCCCAGGACCACAACACACCGACCT CACCTGCCATGTGGACTTCTCCAGAAAGGGTGTGAGCGTACAGAGGACCGTCCGACTCCGTGTGGCCTATGCCCC CAGAGACCTTGTTATCAGCATTTCACGTGACAACACGCCAGCCCTGGAGCCCCAGCCCCAGGGAAATGTCCCATA GGTCCTGCAGAACAGAGTCCTCTCCTCGTCCCATCCCTGGGGCCCTAGACCCCTGGGGCTGGAGCTGCCCGGGGT GAAGGCTGGGGATTCAGGGCGCTACACCTGCCGAGCGGAGAACAGGCTTGGCTCCCAGCAGCGAGCCTGGACCT CTCTGTGCAGTATCCTCCAGAGAACCTGAGAGTGATGGTTTCCCAAGCAAACAGGACAGTCCTGGAAAACCTTGG CAGCCTCTCCGTGCACTACTCCCCGAAGCTGCTGGGCCCCTCCTGCTCCTGGGAGGCTGAGGGTCTGCACTGCAG $\tt CCAGGACTCCTTCGAGGTCACCCCAGCTCAGCCGGGCCCTGGGCCAACAGCTCCCTGAGCCTCCATGGAGGGCT$ AGATAAGAAGGGACTCATCTCAACGGCATTCTCCAACGGAGCGTTTCTGGGAATCGGCATCACGGCTCTTCTTTT CTCCCGGCACAGCACGATCCTGGATTACATCAATGTGGTCCCGACGGCTGGCCCCCTGGCTCAGAAGCGGAATCA GAAAGCCACACCAAACAGTCCTCGGACCCCTCTTCCACCAGGTGCTCCCCCAGAATCAAAGAAGAACCAGAA AAAGCAGTATCAGTTGCCCAGTTTCCCAGAACCCAAATCATCCACTCAAGCCCCAGAATCCCAGGAGAGCCAAGA GGAGCTCCATTATGCCACGCTCAACTTCCCAGGCGTCAGACCCAGGCCTGAGGCCCGGATGCCCAAGGGCACCCA $\tt GGCGGATTATGCAGAAGTCAAGTTCCAA{\color{blue}{\textbf{TGA}}} GGGTCTCTTAGGCTTTAGGACTGGGACTTCGGCTAGGGAGGAAG$

MLLPLLLSSLLGGSQAMDGRFWIRVQESVMVPEGLCISVPCSFSYPRQDWTGSTPAYGYWFKAVTETTKGAPVAT NHQSREVEMSTRGRFQLTGDPAKGNCSLVIRDAQMQDESQYFFRVERGSYVRYNFMNDGFFLKVTALTQKPDVYI PETLEPGQPVTVICVFNWAFEECPPPSFSWTGAALSSQGTKPTTSHFSVLSFTPRPQDHNTDLTCHVDFSRKGVS VQRTVRLRVAYAPRDLVISISRDNTPALEPQPQGNVPYLEAQKGQFLRLLCAADSQPPATLSWVLQNRVLSSSHP WGPRPLGLELPGVKAGDSGRYTCRAENRLGSQQRALDLSVQYPPENLRVMVSQANRTVLENLGNGTSLPVLEGQS LCLVCVTHSSPPARLSWTQRGQVLSPSQPSDPGVLELPRVQVEHEGEFTCHARHPLGSQHVSLSLSVHYSPKLLG PSCSWEAEGLHCSCSSQASPAPSLRWWLGEELLEGNSSQDSFEVTPSSAGPWANSSLSLHGGLSSGLRLRCEAWN VHGAQSGSILQLPDKKGLISTAFSNGAFLGIGITALLFLCLALIIMKILPKRRTQTETPRPRFSRHSTILDYINV VPTAGPLAQKRNQKATPNSPRTPLPPGAPSPESKKNQKKQYQLPSFPEPKSSTQAPESQESQEELHYATLNFPGV RPRPEARMPKGTQADYAEVKFO

CCTTCATACCGGCCCTTCCCCTCGGCTTTGCCTGGACAGCTCCTGCCTCCCGCAGGGCCCACCTGTGTCCCCCAG CGCCGCTCCACCCAGCAGGCCTGAGCCCCTCTCTGCTGCCAGACACCCCCTGCTGCCCACTCTCCTGCTCGG GTTCTGAGGCACAGCTTGTCACACCGAGGCGGATTCTCTTTCTCTTTCTCTTCTGGCCCACAGCCGCAGCAATGG CTCCTGGAGACTGGGGGCCTCCTCCCTGGAGATCCACCCCCAGAACCGACGTCTTGAGGCTGGTGCTGTATCTCA CCTTCCTGGGAGCCCCCTGCTACGCCCCAGCTCTGCCGTCCTGCAAGGAGGACGAGTACCCAGTGGGCTCCGAGT GCTGCCCCAAGTGCAGTCCAGGTTATCGTGTGAAGGAGGCCTGCGGGGAGCTGACGGGCACAGTGTGTGAACCCT GCCCTCCAGGCACCTACATTGCCCACCTCAATGGCCTAAGCAAGTGTCTGCAGTGCCAAATGTGTGACCCAGCCA TGGGCCTGCGCGCGAACTGCTCCAGGACAGAGAACGCCGTGTGTGGCTGCAGCCCAGGCCACTTCTGCA TCGTCCAGGACGGGGACCACTGCGCCGCGTGCCGCGCTTACGCCACCTCCAGCCCGGGCCAGAGGGTGCAGAAGG GAGGCACCGAGAGTCAGGACACCCTGTGTCAGAACTGCCCCCGGGGACCTTCTCTCCCAATGGGACCCTGGAGG AATGTCAGCACCAGACCAAGTGCAGCTGGCTGGTGACGAAGGCCGGAGCTGGGACCAGCAGCTCCCACTGGGTAT GGTGGTTTCTCTCAGGGAGCCTCGTCATCGTCATTGTTTGCTCCACAGTTGGCCTAATCATATGTGTGAAAAGAA GAAAGCCAAGGGGTGATGTAGTCAAGGTGATCGTCTCCGTCCAGCGGAAAAGACAGGAGGCAGAAGGTGAGGCCA CAGTCATTGAGGCCCTGCAGGCCCTCCGGACGTCACCACGGTGGCCGTGGAGGAGACAATACCCTCATTCACGG GGAGGAGCCCAAACCAC<u>TGA</u>CCCACAGACTCTGCACCCCGACGCCAGAGATACCTGGAGCGACGGCTGCTGAAAG AGTGGAGGGAGAGGTGGGGCCCCTGCTGGGGTAGAGCTGGGGACGCCACGTGCCATTCCCATGGGCCAGTGAGGG CCTGGGGCCTCTGTTCTGCTGTGGCCTGAGCTCCCCAGAGTCCTGAGGAGGAGCGCCAGTTGCCCCTCGCTCACA GACCACACCCCAGCCCTCCTGGGCCAGCCCAGAGGGCCCTTCAGACCCCAGCTGTCTGCGCGTCTGACTCTTGT GGCCTCAGCAGGACAGGCCCCGGGCACTGCCTCACAGCCAAGGCTGGACTGGGTTGGCTGCAGTGTGTTTAG TGGATACCACATCGGAAGTGATTTTCTAAATTGGATTTGAATTCCGGTCCTGTCTTCTATTTGTCATGAAACAGT

MEPPGDWGPPPWRSTPRTDVLRLVLYLTFLGAPCYAPALPSCKEDEYPVGSECCPKCSPGYRVKEACGELTGTVC EPCPPGTYIAHLNGLSKCLQCQMCDPAMGLRASRNCSRTENAVCGCSPGHFCIVQDGDHCAACRAYATSSPGQRV QKGGTESQDTLCQNCPPGTFSPNGTLEECQHQTKCSWLVTKAGAGTSSSHWVWWFLSGSLVIVIVCSTVGLIICV KRRKPRGDVVKVIVSVQRKRQEAEGEATVIEALQAPPDVTTVAVEETIPSFTGRSPNH

 ${\tt MQYATGPLLKFQICVSXGYRRVFEEYMRVISQRYPDIRIEGENYLPQPIYRHIASFLSVFKLVLIGLIIVGKDPF} \\ AFFGMQAPSIWQWGQENKVYACMMVFFLSNMIENQCMSTGAFEITLNDVPVWSKLESGHLPSMQQLVQILDNEMK LNVHMDSIPHHRS$

AGAAGCTGGCAACATGTCACACCTGGAAATTGTTTTTCAACATTAATACTATTATTTGGCAGTAATCCAGATTGC TTTTGCCACCAACCTGAAGACATATAGAGGCAGAAGGACAGGAATAATTCTATTTGTTTCCTGTTTTGAAACTTC CATCTGTAAGGCTATCAAAAGGAGATGTGAGAGAGGGTATTGAGTCTGGCCTGACAATGCAGTTCTTAAACCAAA GGTCCATTATGCTTCTCCTCTGAGAATCCTGACTTACCTCAACAACGGAGACATGGCACAGTAGCCAGCTTGG AGACTTCTCAGCCAATGCTCTGAGATCAAGTCGAAGACCCAATATACAGGGTTTTGAGCTCATCTTCATCATTCA TATGAGGAAATAAGTGGTAAAATCCTTGGAAATACA**ATG**AGACTCATCAGAAACATTTACATATTTTGTAGTATT GTTATGACAGCAGAGGTGATGCTCCAGAGCTGCCAGAAGAAAGGGAACTGATGACCAACTGCTCCAACATGTCT CTAAGAAAGGTTCCCGCAGACTTGACCCCAGCCACAACGACACTGGATTTATCCTATAACCTCCTTTTTCAACTC CAGAGTTCAGATTTTCATTCTGTCTCCAAACTGAGAGTTTTGATTCTATGCCATAACAGAATTCAACAGCTGGAT CTCAAAACCTTTGAATTCAACAAGGAGTTAAGATATTTAGATTTGTCTAATAACAGACTGAAGAGTGTAACTTGG TATTTACTGGCAGGTCTCAGGTATTTAGATCTTTCTTTTAATGACTTTGACACCATGCCTATCTGTGAGGAAGCT GGCAACATGTCACACCTGGAAATCCTAGGTTTGAGTGGGGCAAAAATACAAAAATCAGATTTCCAGAAAATTGCT CATCTGCATCTAAATACTGTCTTCTTAGGATTCAGAACTCTTCCTCATTATGAAGAAGGTAGCCTGCCCATCTTA AACACAACAAACTGCACATTGTTTTACCAATGGACACAAATTTCTGGGTTCTTTTGCGTGATGGAATCAAGACT TCAAAAATATTAGAAATGACAAATATAGATGGCAAAAGCCAATTTGTAAGTTATGAAATGCAACGAAATCTTAGT TTAGAAAATGCTAAGACATCGGTTCTATTGCTTAATAAAGTTGATTTACTCTGGGACGACCTTTTCCTTATCTTA CAATTTGTTTGGCATACATCAGTGGAACACTTTCAGATCCGAAATGTGACTTTTGGTGGTAAGGCTTATCTTGAC CACAATTCATTTGACTACTCAAATACTGTAATGAGAACTATAAAATTGGAGCATGTACATTTCAGAGTGTTTTAC ATTCAACAGGATAAAATCTATTTGCTTTTGACCAAAATGGACATAGAAAACCTGACAATATCAAATGCACAAATG CCACACATGCTTTTCCCGAATTATCCTACGAAATTCCAATATTTAAATTTTGCCAATAATATCTTAACAGACGAG TTGTTTAAAAGAACTATCCAACTGCCTCACTTGAAAACTCTCATTTTGAATGGCAATAAACTGGAGACACTTTCT TTAGTAAGTTGCTTTGCTAACAACACACCCTTGGAACACTTGGATCTGAGTCAAAATCTATTACAACATAAAAAT GATGAAAATTGCTCATGGCCAGAAACTGTGGTCAA TATGAATCTGTCATACAATAAATTGTCTGATTCTGTCTTC AGGTGCTTGCCCAAAAGTATTCAAATACTTGACCTAAATAATAACCAAATCCAAACTGTACCTAAAGAGACTATT CATCTGATGGCCTTACGAGAACTAAATATTGCATTTAATTTTCTAACTGATCTCCCTGGATGCAGTCATTTCAGT AGACTTTCAGTTCTGAACATTGAAATGAACTTCATTCTCAGCCCATCTCTGGATTTTGTTCAGAGCTGCCAGGAA TATTCAGAGGTCATGATGGTTGGATGGTCAGATTCATACACCTGTGAATACCCTTTAAACCTAAGGGGAATTAGG TTAAAAGACGTTCATCTCCACGAATTATCTTGCAACACAGCTCTGTTGATTGTCACCATTGTGGTTATTATGCTA GTTCTGGGGTTGGCCTTCTGCTGTCTCCACTTTGATCTGCCCTGGTATCTCAGGATGCTAGGTCAATGC ACACAAACATGGCACAGGGTTAGGAAAACAACCCAAGAACAACTCAAGAGAAATGTCCGATTCCACGCATTTATT TTGATTTGCCTTTATGAAAGCTACTTTGACCCTGGCAAAAGCATTAGTGAAAATATTGTAAGCTTCATTGAGAAA AGCTATAAGTCCATCTTTGTTTTGTCTCCCAACTTTGTCCAGAATGAGTGGTGCCATTATGAATTTTACTTTGCC CACCACAATCTCTTCCATGAAAATTCTGATCATATAATTCTTATCTTACTGGAACCCATTCCATTCTATTGCATT TGTGGGCTTTTCTGGGCAAACCTTCGAGCTGCTATTAATGTTAATGTATTAGCCACCAGAGAAATGTATGAACTG ${\tt CAGACATTCACAGAGTTAAATGAAGAGTCTCGAGGTTCTACAATCTCTCTGATGAGAACAGATTGTCTA}$ AAT CCCACAGTCCTTGGGAAGTTGGGGACCACATACACTGTTGGGATGTACATTGATACAACCTTTATGATGGCAATT TG

MRLIRNIYIFCSIVMTAEGDAPELPEERELMTNCSNMSLRKVPADLTPATTTLDLSYNLLFQLQSSDFHSVSKLR VLILCHNRIQQLDLKTFEFNKELRYLDLSNNRLKSVTWYLLAGLRYLDLSFNDFDTMPICEEAGNMSHLEILGLS GAKIQKSDFQKIAHLHLNTVFLGFRTLPHYEEGSLPILNTTKLHIVLPMDTNFWVLLRDGIKTSKILEMTNIDGK SQFVSYEMQRNLSLENAKTSVLLLNKVDLLWDDLFLILQFVWHTSVEHFQIRNVTFGGKAYLDHNSFDYSNTVMR TIKLEHVHFRVFYIQQDKIYLLLTKMDIENLTISNAQMPHMLFPNYPTKFQYLNFANNILTDELFKRTIQLPHLK TLILNGNKLETLSLVSCFANNTPLEHLDLSQNLLQHKNDENCSWPETVVNMNLSYNKLSDSVFRCLPKSIQILDL NNNQIQTVPKETIHLMALRELNIAFNFLTDLPGCSHFSRLSVLNIEMNFILSPSLDFVQSCQEVKTLNAGRNPFR CTCELKNFIQLETYSEVMMVGWSDSYTCEYPLNLRGIRLKDVHLHELSCNTALLIVTIVVIMLVLGLAVAFCCLH FDLPWYLRMLGQCTQTWHRVRKTTQEQLKRNVRFHAFISYSEHDSLWVKNELIPNLEKEDGSILICLYESYFDPG KSISENIVSFIEKSYKSIFVLSPNFVQNEWCHYEFYFAHHNLFHENSDHIILILLEPIPFYCIPTRYHKLKALLE KKAYLEWPKDRRKCGLFWANLRAAINVNVLATREMYELQTFTELNEESRGSTISLMRTDCL

CCCTGCGCGGCTGCTGGACCGACGGCGCACCCAGGTAGGGGGGCGGCTGAGCCGCGCAGTGCGGACCCTCGCGG ${\tt GGAACTGCGCCGCCACC} \underline{\textbf{ATG}} {\tt TCTCAGGAAGGTGTGGAGCTGGAGAAGAGCGTCCGGCGCCTCCGGGAGAAGT}$ TTCATGGGAAGGTATCCTCCAAGAAGGCGGGGGCTCTGATGAGGAAATTCGGCAGCGACCACACGGGAGTGGGGC GCTCCATCGTGTACGGGGTAAAGCAAAAAGATGGCCAAGAACTAAGTAACGATCTGGATGCCCAGGATCCACCAG TGTTTCAACGTGCCCAGGACGACCTTATCCCTGCTGTGGACCGGCAGTTTGCCTGCTCCTCCTGCGACCACGTCT GGTGGCGCCGCGTGCCCAGCGGAAGGAGGTATCCCGGTGCCGGAAATGCCGGAAGCGCTACGAGCCAGTGCCAG CTGACAAGATGTGGGGCCTGGCTGAGTTCCACTGCCCGAAGTGTCGGCACAACTTCCGGGGCTGGGCACAGATGG GGTCCCCGTCCCCTGCTACGGGTGCGGCTTCCCCGTGTATCCAACACGGATCCTCCCCCCGCGCGGGACCGGG ACCCGGATCGCCGCAGCCCCACACTCACTCCTGCTCAGCTGCCGACTGCTACAACCGGCGAGAGCCCCACGTGC CTGGGACATCCTGTGCTCACCCCAAGAGCCGGAAGCAGCACCCTGCCCAAAGTGCTCCACCCCAGCAACCCTC ACATTAGCAGTGGCCCCACTGTGGCCACCTGCTTGAGCCAGGGTGGCCTCCTGGAAGACCTGGACAACCTCATCC TGCCAGGTGCAGATACAAACCAGACACGGTCTGTGGCTACTTTGTGTTATTATAAGATATGAGCTCAAACCGAGA AGGGTCACAGATCCACAGTGGGAAGTTCTGTGGGACACATTGGCACTGAGCCACAAAGAAGGTGTGGCCAGAACA ACTTGGGCTCCTGCTGACCAATGTCCTCTAGGGCCTAGGGGACAGAGAACACAGAGTCACAGCTTCAGGGGCCG AATGAGCATGGCGGCCTTCCTGAGAGAATATGCCCCACCACGAAACTCAGCCCAGTAGACACCATCCTGGTAGCG GCTTCGGTAGTGGCCGCGTGGTGCCACACACCGTTGAGGTTGGAGTGGGCACAGGCATGGTACCACCAGCCTCC TGCACCTCACAGTGCAAGGCTTTTGCCAGGCATCCCCTGGCCCCTCCCATTCTTATTGAATACAAGCCCTGATCT ATCTCCTTACCAAAGTACAAGTCACATCTTTCCCACCTTTTCTGCAAACTAGGAGTCTACCGTTCATTCCTTTAT CAAAGAAAAGTATCTACTTCCTTTCTAGAATAAGAGTACTAGCTCTCACCCTCTGCCCTTTACTTGAACAGGAGT CTTGATTCTTTTTTGCCTCATCAGAGAAGGAATCTGGACTCCCCATCCCCCACCAGGATAAAAGTCCTGACCT TTGTTCTCTTGACGGAATAAAAGCTTGCTTATCCTT

MSQEGVELEKSVRRLREKFHGKVSSKKAGALMRKFGSDHTGVGRSIVYGVKQKDGQELSNDLDAQDPPEDMKQDR DIQAVATSLLPLTEANLRMFQRAQDDLIPAVDRQFACSSCDHVWWRRVPQRKEVSRCRKCRKRYEPVPADKMWGL AEFHCPKCRHNFRGWAQMGSPSPCYGCGFPVYPTRILPPRRDRDPDRRSTHTHSCSAADCYNRREPHVPGTSCAH PKSRKQNHLPKVLHPSNPHISSGPTVATCLSQGGLLEDLDNLILEDLKEEEEEEEEVEDEEGGPRE

GGTGGTCCAGGAAAAGGCGCTCCGTCATCGGGGATCCAGACGAGCCCCGTCCTGCTGGCCTCCCTGGGGGTGGGGC TGGTCACTCTGCTCGGCCTGGCTGTGGGCTCCTACTTGGTTCGGAGGTCCCGCCGGCCTCAGGTCACTCTCCTGG ACCCCAATGAAAAGTACCTGCTACGACTGCTAGACAAGACGACTGTGAGCCACAACACCAAGAGGTTCCGCTTTG CCCTGCCCACCGCCCACCACTCTGGGGCTGCCTGTGGGCAAACATATCTACCTCTCCACCCGAATTGATGGCA ACCTGGTCATCAGGCCATACACTCCTGTCACCAGTGATGAGGATCAAGGCTATGTGGATCTTGTCATCAAGGTCT ACCTGAAGGGTGTGCACCCCAAATTTCCTGAGGGAGGGAAGATGTCTCAGTACCTGGATAGCCTGAAGGTTGGGC ATGTGGTGGAGTTTCGGGGGCCAAGCGGGTTGCTCACTTACACTGGAAAAGGGCATTTTAACATTCAGCCCAACA AGAAATCTCCACCAGAACCCCGAGTGGCGAAGAAACTGGGAATGATTGCCGGCGGGACAGGAATCACCCCAATGC TACAGCTGATCCGGGCCATCCTGAAAGTCCCTGAAGATCCAACCCAGTGCTTTCTGCTTTTTTGCCAACCAGACAG AAAAGGATATCATCTTGCGGGAGGACTTAGAGGAACTGCAGGCCCGCTATCCCAATCGCTTTAAGCTCTGGTTCA CTCTGGATCATCCCCCAAAAGATTGGGCCTACAGCAAGGGCTTTGTGACTGCCGACATGATCCGGGAACACCTGC $\tt CCGCTCCAGGGGATGATGTGCTGGTACTGCTTTGTGGGCCACCCCAATGGTGCAGCTGGCCTGCCATCCCAACT$ $\tt TGGACAAACTGGGCTACTCACAAAAGATGCGATTCACCTAC \underline{\textbf{TGA}} GCATCCTCCAGCTTCCCTGGTGCTGTTCGCT$ GCAGTTGTTCCCCATCAGTACTCAAGCACTATAAGCCTTAGATTCCTTTCCTCAGAGTTTCAGGTTTTTTCAGTT ACATCTAGAGCTGAAATCTGGATAGTACCTGCAGGAACAATATTCCTGTAGCCATGGAAGAGGCCCAAGGCTCAG TCACTCCTTGGATGGCCTCCTAAATCTCCCCGTGGCAACAGGTCCAGGAGAGGCCCCATGGAGCAGTCTCTTCCAT GGAGTAAGAAGGAAGGGAGCATGTACGCTTGGTCCAAGATTGGCTAGTTCCTTGATAGCATCTTACTCTCACCTT CTTTGTGTCTGTGATGAAGGAACAGTCTGTGCAATGGGTTTTACTTAAACTTCACTGTTCAACCTATGAGCAAA TCTGTATGTGTGAGTATAAGTTGAGCATAGCATACTTCCAGAGGTGGTCTTATGGAGATGGCAAGAAAGGAGGAA AGAGGGAAACAGCTACTGATAATCGAAAACTGCTGTTTGTGGCAGGAACCCCTGGCTGTGCAAATAATACTGGCT GAGGCCCCTGTGTGATATTGAAAAAAA

MGIQTSPVLLASLGVGLVTLLGLAVGSYLVRRSRRPQVTLLDPNEKYLLRLLDKTTVSHNTKRFRFALPTAHHTL GLPVGKHIYLSTRIDGNLVIRPYTPVTSDEDQGYVDLVIKVYLKGVHPKFPEGGKMSQYLDSLKVGHVVEFRGPS GLLTYTGKGHFNIQPNKKSPPEPRVAKKLGMIAGGTGITPMLQLIRAILKVPEDPTQCFLLFANQTEKDIILRED LEELQARYPNRFKLWFTLDHPPKDWAYSKGFVTADMIREHLPAPGDDVLVLLCGPPPMVQLACHPNLDKLGYSQK MRFTY

 $\texttt{ACCGCGGAAAGC} \underline{\textbf{ATG}} \texttt{TTGTGGCTGTTTCCAATCGCTCCTGTTTGTCTTCTGCTTTGGCCCAGGGAATGTAGTTTCA}$ CAAAGCAGCTTAACCCCATTGATGGTGAACGGGATTCTGGGGGGAGTCAGTAACTCTTCCCCTGGAGTTTCCTGCA GGAGAGAAGGTCAACTTCATCACTTGGCTTTTCAATGAAACATCTCTTGCCTTCATAGTACCCCATGAAACCAAA AGTCCAGAAATCCACGTGACTAATCCGAAACAGGGAAAGCGACTGAACTTCACCCAGTCCTACTCCCTGCAACTC AGCAACCTGAAGATGGAAGACACAGGCTCTTACAGAGCCCAGATATCCACAAAGACCTCTGCAAAGCTGTCCAGT TACACTCTGAGGATATTAAGACAACTGAGGAACATACAAGTTACCAATCACAGTCAGCTATTTCAGAATATGACC TGTGAGCTCCATCTGACTTGCTCTGTGGAGGATGCAGATGACAATGTCTCATTCAGATGGGAGGCCTTGGGAAAC ACACTTTCAAGTCAGCCAAACCTCACTGTCTCCTGGGACCCCAGGATTTCCAGTGAACAGGACTACACCTGCATA GCAGAGAATGCTGTCAGTAATTTATCCTTCTCTGTCTCTGCCCAGAAGCTTTGCGAAGATGTTAAAATTCAATAT ACAGATACCAAAATGATTCTGTTTATGGTTTCTGGGATATGCATAGTCTTCGGTTTCATCATACTGCTGTTACTT GTTTTGAGGAAAAGAAGAGTTCCCTATCTTTGTCTACTCAGCGAACACAGGGCCCCGAGTCCGCAAGGAACCTA GAGTATGTTTCAGTGTCTCCAACGAACACACTGTGTATGCTTCAGTCACTCATTCAAACAGGGAAACAGAAATC ${\tt TCCAGGGCAACTGCCCTTGACAATGTCGTG}$ CTGATCCCATGAGACAGAACAAGAACAGGAAGCTTGGTTCCTGTTGTTCCTGGCAACAGAATTTGAATATCTAG GATAGGATGATCACCTCCAGTCCTTCGGACTTAAACCTGCCTACCTGAGTCAAACACCTAAGGATAACATCATTT CCAGCATGTGGTTCAAATAATATTTTCCAATCCACTTCAGGCCAAAACATGCTAAAGATAACACACCAGCACATT GACTCTCTCTTTGATAACTAAGCAAATGGAATTATGGTTGACAGAGAGTTTATGATCCAGAAGACAACCACTTCT CTCCTTTTAGAAAGCAGCAGGATTGACTTATTGAGAAATAATGCAGTGTTGGTTACATGTGTAGTCTCTGGAG TTGGATGGCCCATCCTGATACAAGTTGAGCATCCCTTGTCTGAAATGCTTGGGATTAGAAATGTTTCAGATTTC AATTTTTTTTCAGATTTTGGAATATTTGCATTATATTTAGCGGTTGAGTATCCAAAATCCAAAATCCAAAATTCA AAATGCTCCAATAAGCATTTCCCTTGAGTTTCATTGATGTCGATGCAGTGCTCAAAATCTCAGATTTTGGAGCAT TTTGGATATTGGATTTTGGGATGCTCAACTTGTACAATGTTTATTAGACACATCTCCTGGGACATACT GCCTAACCTTTTGGAGCCTTAGTCTCCCAGACTGAAAAAGGAAGAGGATGGTATTACATCAGCTCCATTGTTTGA GCCAAGAATCTAAGTCATCCCTGACTCCAGTGTCTTTGTCACCAGGCCCTTTGGACTCTACCTCAGAAATATTTC TTGGACCTTCCACCTCCAACTCCTTGACCACCATCCTGTATCCAACCATCACCACCTCTAACCTGAATCC TACCTTAAGATCAGAACAGTTGTCCTCACTTTTGTTCTTGTCCCTCTCCAACCCACTCTCCACAAGATGGCCAGA GTAATGTTTTTAATATAAATTGGATCCTTCAGTTTCCTGCTTAAAACCCTGCAGGTTTCCCAATGCACTCAGAAA GAAATCCAGTTTCCATGGCCCTGGATGGTCTGGCCCACCTCCAGCCTCAGCATTACCCTTCTGACACTCTC TATGTAGCCTCCCTGATCTTCTTCAGCTCCTCTATTAAAGGAAAAGTTCTTTATGTTAATTATTTACATCTTCC TGCAGGCCCTTCCTCTGCCTGCGGGTCCTCCTATTCTTTAGGTTTAATTTTAAATATGTCACCTCCTAAGAGA AACCTTCCCAGACCACTCTTTCTAAAATGAATCTTCTAGGCTGGGCATGGTGGCTCACACCTGTAATCCCAGTAC ${ t TTTGGGAGGCCAAGGGGGAGATCACTTGAGGTCAGGAGTTCAAGACCAGCCTGGCCAACTTGGTGAAACCCCGT$ CTTTACTAAAAATACAAAAAAATTAGCCAGGCGTGGTGGTGCACCCCTAAAATCCCAGCTACTTGAGAGACTGAG GCAGGAGAATCGCTTGAACCCAGGAGGTGGAGGTTCCAGTGAGCCAAAATCATGCCAATGTATTCCAGTCTGGGT

MLWLFQSLLFVFCFGPGNVVSQSSLTPLMVNGILGESVTLPLEFPAGEKVNFITWLFNETSLAFIVPHETKSPEI HVTNPKQGKRLNFTQSYSLQLSNLKMEDTGSYRAQISTKTSAKLSSYTLRILRQLRNIQVTNHSQLFQNMTCELH LTCSVEDADDNVSFRWEALGNTLSSQPNLTVSWDPRISSEQDYTCIAENAVSNLSFSVSAQKLCEDVKIQYTDTK MILFMVSGICIVFGFIILLLLVLRKRRDSLSLSTQRTQGPESARNLEYVSVSPTNNTVYASVTHSNRETEIWTPR ENDTITIYSTINHSKESKPTFSRATALDNVV

FIGURE 23A

GAGAGGACGAGGTGCCGCTGCCTGGAGAATCCTCCGCTGCCGTCGGCTCCCGGAGCCCAGCCCTTTCCTAACCCA ACCCAACCTAGCCCAGCCGCCAGCGCCTGTCCCTGTCACGGACCCCAGCGTTACCATGCATCCTGCCGT CTTCCTATCCTTACCCGACCTCAGATGCTCCCTTCTGCTCCTGGTAACTTGGGTTTTTACTCCTGTAACAACTGA AATAACAAGTCTTGATACAGAGAATATAGATGAAATTTTAAACAATGCTGATGTTGCTTTAGTAAATTTTTATGC TGACTGGTGTCGTTTCAGTCAGATGTTGCATCCAATTTTTGAGGAAGCTTCCGATGTCATTAAGGAAGAATTTCC AAATGAAAATCAAGTAGTGTTTGCCAGAGTTGATTGTGATCAGCACTCTGACATAGCCCAGAGATACAGGATAAG CAAATACCCAACCTCAAATTGTTTCGTAATGGGATGATGATGAAGAGAGAATACAGGGGTCAGCGATCAGTGAA AGCATTGGCAGATTACATCAGGCAACAAAAAAGTGACCCCATTCAAGAAATTCGGGACTTAGCAGAAATCACCAC TCTTGATCGCAGCAAAAGAATATCATTGGATATTTTGAGCAAAAGGACTCGGACAACTATAGAGTTTTTGAACG TGGCGACAACATAATCTACAAACCACCAGGGCATTCTGCTCCGGATATGGTGTACTTGGGAGCTATGACAAATTT TGATGTGACTTACAATTGGATTCAAGATAAATGTGTTCCTCTTGTCCGAGAAATAACATTTGAAAATGGAGAGGA ATTGACAGAAGAAGGACTGCCTTTTCTCATACTCTTTCACATGAAAGAAGATACAGAAAGTTTAGAAATATTCCA GAATGAAGTAGCTCGGCAATTAATAAGTGAAAAAGGTACAATAAACTTTTTACATGCCGATTGTGACAAATTTAG ACATCCTCTTCTGCACATACAGAAAACTCCAGCAGATTGTCCTGTAATCGCTATTGACAGCTTTAGGCATATGTA TGTGTTTGGAGACTTCAAAGATGTATTAATTCCTGGAAAACTCAAGCAATTCGTATTTGACTTACATTCTGGAAA ACTGCACAGAGAATTCCATCATGGACCTGACCCAACTGATACAGCCCCAGGAGAGCCAAGATGTAGCAAG CAGTCCACCTGAGAGCTCCTTCCAGAAACTAGCACCCAGTGAATATAGGTATACTCTATTGAGGGGATCGAGATGA GCTT<u>TAA</u>AAACTTGAAAAACAGTTTGTAAGCCTTTCAACAGCAGCATCAACCTACGTGGTGGAAATAGTAAACCT AATCAGAGGCCTATCTCCACTTTAAATCTGTCCTGTAAAAGTTTTATAAATCAAATGAAAGGTGACATTGCCAGA TTCATATGATCAATTCTGTTGGTATTTTCAGTATCTCATTTCTCAAAGCTAAAGAGATATACATTCTGGATACTT CCATAGTGGTATTTTTTGGATTCTTAATGTGTAACTTAAACATACTTTGAAGTGGAGGAGAGTCATAAGACAGA ACATTTGGCAGGAATTGTCCTTATGAAACAAGAAAAAGAAAATGAAAAGTATTATTAAGCTTCTGTGTTTTGTCTA AACAGGCTACCAATCAGAACTAGATGACTTTTAAGGCTCCTCCTATTATGAGACTTCAATTTCCAAAGAGAAGAA CTAGCAGAGAAATTGTATTTCAGTAATTTTAAGCTCCTTCTGTTGTAGAGTCTTGTTATAGTTGTATAAATCA AAAACACAGAATAAGGAACATATTTAACTTTTTTTCATTATAAAATGGTTAGAGGACCCTACCCCCTCTAGATTC CCTGATTTCCCCAGGCCTGCAGCATACAGTAAGATGGGTCCCTGTGCCAGGCCTCAATACTGCCAGGGAATAAAA AGATTATTTTTAAGCTTAAAAGGCTGACATGTGCCATTATATGTAGTATGTAATATGTAACATCTTCCAATTC TTTTAAAATAAAATTAATATTTATAATGGATATTTAATGATTGTTATTTTTAAAAACCAGCTTATAATTCCTCGT TATGCATGATTTATCCAAAGTTTCCATAGTTTTATTCAAAATAATAAATGTTAATAAGGTGATAAGGGGTATATT TAATGTATTGTATCAAATTGTGAATAAGAAAGTAGGATGGAGCTTTCTAGAGGTTGGGCCTTAGTTCTGTTATCC TCATTGCTTTTAACCAATAAGTTAAATGAAGTTAGAGTTATGGTCTTCAGGTTAGATTATGGACCAGATCTGTGA GGGTCAGCATGGAAATTCACATTCAACAAGGTAGCACACAGGACCAAGAGCACATGCAATCAACTGGAATAA TATAGTAATCCTGTAACTGGGTTTGAAAAAATAATCAACAAAAGATACAATTCAAGGGTTAGGTTGCAGAGAGCT GGCTTGAGAGTAGTTATTATGAAAAAGGCCTCAAGGAGTACGTGTTCAGTATGCTCTAAGATGATAAAGTGGCTG TTAAAAAGGGAGTTGATTTGAGGAAGTATTACTTAGCATTCATGCATATTGGGCTTAGCCTTAGCCCTGCCACT ATCATTGTCTTCTCTGGACTGTGAAGTCACTGAGGACAAGGAAACTAAATTTAATGTCTGTATCACTAGTGCCTA TTTACCCTGAGGGGCTCAGCACTCATTAGGACTTGGTGCCTAATTTTATAAAAAGTCACTAAGCTCAAGTGCTTG GATGAAAGGACAGCGTGGATAAAAAGGTTTTTAAAACATGGATGTTAAGGCTGTTTTGCTTGGAGAAGACTTGGG ACTGGGACAGTCTTTAGATATTATTTGAAATGCTGGCACTGTCTATCTGGATCCCAGGGCTTGAACTAGGATTTG

FIGURE 23B

AGGAAGTCACAGGGAAGCAGATTTCAGTCTGACATTTATTCAGTGCAAGTTTTTTTGGTGCTGTAGTATATGATGA AAGATGTAAAGCTGAATAAAGCATTATTTCTGCCCTAGAGTTGTTCACAGCCTAGTCAGGCATATGGATATGTAA ACAATGACTGTAACGTGTTATAGATGTAAAGACAAAATAAAGGTTAAAGAGGGCATAAAGGAGCACTCAATTGCA GAGATTTGAGGACATTATTTTTATTTTGAGCTTTAAAAAGATGAATAGGTGTTCTCAGGAGGTAGGGATCTGGCT GAGAGGGAATAATCTGAGCAAAGGTATGAAACAGCCTAATGCATTAGAGAAAAAAGTTCTTTTAGTAAGGCATTT GGGGTTGGGGAAGCTAGAAAAAGAAATGGGAGCTGGTCACACAGGGCCTTGTGTGCCAGACTAAGGGGTTTGTAG AATAGTGTGGAAGCACGTCTCAAATTTAGACTTACTTGTTCCCCCTCTGAACCGTGAATCAGACCATTTCAGGTA CTGAAGAACACGGTTGAGTCCCCAGAACCAAAAGGGGGCCTTTCTGCTTCTTAGCCAGCTACCTCTTCGAGTTTT AAAAGAACCTAGCCAATAAGATAGAGAATGGGCATCTAAGGCATCTCAGAGCTCTCTGATGAAGCCAGGTTGTCA TTTTAAACCTGAGGGCAAAAAGGAATGGATAAAGTAGTGTAATGGATTGACAATCAGGAAGAACAGAATAACTCA GTTTTTTTTTCTCCTACAAGGAGATATGGCTGGACCAAAATAAAATGACATGAAATTGCAAAAATGAAAAT

RGRGAAAWRILRCRRLPEPSPFLTQPNLAQSQPPAPVPVTDPSVTMHPAVFLSLPDLRCSLLLLVTWVFTPVTTE
ITSLDTENIDEILNNADVALVNFYADWCRFSQMLHPIFEEASDVIKEEFPNENQVVFARVDCDQHSDIAQRYRIS
KYPTLKLFRNGMMMKREYRGQRSVKALADYIRQQKSDPIQEIRDLAEITTLDRSKRNIIGYFEQKDSDNYRVFER
VANILHDDCAFLSAFGDVSKPERYSGDNIIYKPPGHSAPDMVYLGAMTNFDVTYNWIQDKCVPLVREITFENGEE
LTEEGLPFLILFHMKEDTESLEIFQNEVARQLISEKGTINFLHADCDKFRHPLLHIQKTPADCPVIAIDSFRHMY
VFGDFKDVLIPGKLKQFVFDLHSGKLHREFHHGPDPTDTAPGEQAQDVASSPPESSFQKLAPSEYRYTLLRDRDE
L

MWSAGRGGAAWPVLLGLLLALLVPGGGAAKTGAELVTCGSVLKLLNTHHRVRLHSHDIKYGSGSGQQSVTGVEAS DDANSYWRIRGGSEGGCPCGSPVRCGQAVRLTHVLTGKNLHTHHFPSPLSNNQEVSAFGEDGEGDDLDLWTVRCS GQHWEREAAVRLQHVGTSVFLSVTGEQYGSPIRGQHEVHGMPSANTHNTWKAMEGIFIKPSVEPSAGHDEL

ACGAGGGGAGCTCCGGCTGCTCTTCCCGCAGCGCTACCCGCCATGCCGCCGCGCGCCGCGCCGCGCCGCGCCGCGCCTGGGGCCT CCTGCCGCTTCTGCTGCTGCCGCCCGCGCGGAGGCCGCCAAGAAGCCGACGCCCTGCCACCGGTGCCGGG GCTGGTGGACAAGTTTAACCAGGGGATGGTGGACACCGCAAAGAAGAACTTTGGCGGCGGGAACACGGCTTGGGA GGAAAAGACGCTGTCCAAGTACGAGTCCAGCGAGATTCGCCTGCTGGAGATCCTGGAGGGGCTGTGCGAGAGCAG CGACTTCGAATGCAATCAGATGCTAGAGGCGCAGGAGGAGCACCTGGAGGCCTGGTGGCTGCAGCTGAAGAGCGA ATATCCTGACTTATTCGAGTGGTTTTGTGTGAAGACACTGAAAGTGTGCTGCTCCCAGGAACCTACGGTCCCGA CTGTCTCGCATGCCAGGGCGGATCCCAGAGGCCCTGCAGCGGGAATGGCCACTGCAGCGGAGATGGGAGCAGACA CTCGCTCCGGAACGAGCCCACAGCATCTGCACAGCCTGTGACGAGTCCTGCAAGACGTGCTCGGGCCTGACCAA CAGAGACTGCGGCGAGTGTGAAGTGGGCTGGGTGCTGGACGAGGGCGCCTGTGTGGATGTGGACGAGTGTGCGGC CGAGCCGCCTCCCTGCAGCGCTGCGCAGTTCTGTAAGAACGCCAACGGCTCCTACACGTGCGAAGATGTGGACGA GTGCTCACTAGCAGAAAAAACCTGTGTGAGGAAAAACGAAAACTGCTACAATACTCCAGGGAGCTACGTCTGTGT GTGTCCTGACGGCTTCGAAGAAACGGAAGATGCCTGTGTGCCGCCGGCAGAGGCTGAAGCCACAGAAGGAGAAAG CCCGACACAGCTGCCCTCCCGCGAAGACCTGTAATGTGCCGGACTTACCCTTTAAATTATTCAGAAGGATGTCCC TTGATTCTCATTTGTCCCTTAAACAGCTGCATTTCTTGGTTGTTCTTAAACAGACTTGTATATTTTGATACAGTT

MRLPRRAALGLLPLLLLPPAPEAAKKPTPCHRCRGLVDKFNQGMVDTAKKNFGGGNTAWEEKTLSKYESSEIRL LEILEGLCESSDFECNQMLEAQEEHLEAWWLQLKSEYPDLFEWFCVKTLKVCCSPGTYGPDCLACQGGSQRPCSG NGHCSGDGSRQGDGSCRCHMGYQGPLCTDCMDGYFSSLRNETHSICTACDESCKTCSGLTNRDCGECEVGWVLDE GACVDVDECAAEPPPCSAAQFCKNANGSYTCEDVDECSLAEKTCVRKNENCYNTPGSYVCVCPDGFEETEDACVP PAEAEATEGESPTQLPSREDL